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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,521	09/03/2008	**Sheng Liu**	094809-010200	6823

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EXAMINER	
HONG, DUNG	

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/598,521	LIU ET AL.	
	Examiner	Art Unit	
	DUNG HONG	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112 – 1st

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claim 5** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Re **claim 5,** the claim recites "wherein the second base station comprise more than one base stations", which is not found in the specification. Fig. 1 and related paragraph discloses the base station with multiple cell, Fig. 3 and related paragraph discloses base station with remote antenna unit, Fig. 4-9 and related paragraph discloses sharing channel processing between base stations. However, examiner does not find any support for the details that the second base station comprise more than one base station. Examiner interpret the claim as the sharing processing task involves second base station, and treat the claim on merits.

Claim Rejections - 35 USC § 112 – 2nd

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claim 3, 4, and 9** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re **claim 3,** the claim recites "wherein the base station which the channel processing of the downlink data frames relates to and the base station which the channel processing of the uplink wireless signals relates to both comprise the second base station", which make the claim vague and indefinite. Claim 1, which claim 3 is depending on, recites the first and second base station sharing processing task and uplink. Examiner is not sure if applicant would like to claim that uplink and downlink direction channel processing sharing related to both base station OR referring to another second base station. Examiner interprets the claim as the uplink and downlink channel processing relates to both first and second base station, and treat it on merits.

Re **claim 4**, the claim recites "wherein the second base station comprising more than one base stations", which make the claim vague and indefinite. Base station is an entity which can not comprised another base station. Examiner

interpret the claim as the sharing processing task relates to both first and second base stations, and treat the claim on merits.

Re **claim 9,** the claim recites "**providing configuration information** to indicate the correspondence between the base station and the cell channel processing task shared by it", which make the claim vague and indefinite. The limitation "providing configuration information" does not specify which element provide the configuration to which element since claim 1 and 7 does not specifically recites which base station performing sharing processing task to which base station (first or second?) but only discloses "wherein the base station which the channel processing of the downlink data frames relates to, or the base station which the channel processing of the uplink wireless signals relates to comprises at least the second base station" (most relevant limitation of claim 1). Examiner interpret the claim as the uplink and downlink channel processing is shared between base station correspondingly, the same base stations channel processing is shared on uplink and downlink direction as shown in Fig. 5b, and treat the claim on merits

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claim 1 and 3-4** are rejected under 35 U.S.C. 102(a, b or e) as being anticipated by Menon et al., Pat. No. US 9496,694 B1

Re **claim 1**, Menon discloses a signal transmission method in a wireless base station system, said wireless base station system comprising a first base station *(Fig. 8C - element 804b - IBS-G2)*, a second base station *(Fig. 8C - element 804a - IBS-G1)* and a wireless networks control device *(Fig. 8C - element 815 - MSC)*, wherein the first base station and the second base station are able to jointly share channel processing task of a cell of the first base station, the method comprising:

in the downlink direction,

transmitting by the wireless network control device a part or all of downlink data frames to the base station to which their channel processing relates for processing *(Fig. 8C and col. 21 ln. 52 - col. 22 ln.18 discloses MSC 815 transmitting signaling 864 and bearer 865 to IBS-G1 804a, therefore, transmitting all of downlink data frame);*

receiving by the first base station corresponding downlink wireless signals from the base station which the channel processing of the cell's downlink data frames relates to *(Fig. 8C and col. 21 ln. 52 - col. 22 ln.18 discloses the anchoring - processing cell downlink data of mobile station - base station IBS-G1 804a receiving signaling 864 and bearer 865; Fig. 9-10 discloses data frame for transmitting data)* ; and

transmitting by the first base station the downlink wireless signals for the cell *(Fig. 8C and col. 21 ln. 52 - col. 22 ln.18 discloses IBS-G2 804b relaying information to user device through over the air link 863)*

in the uplink direction,

receiving by the first base station uplink wireless signals of the cell *(Fig. 8C and col. 21 ln. 52 - col. 22 ln.18 discloses first base station IBS-G2 804b receiving communication from user device 802 through over the air link 863, therefore, receiving uplink wireless signal by first base station)*

distributing by the first base station a part or all of the uplink wireless signals to the base station to which their channel processing relates for processing *(Fig. 8C and col. 21 ln. 52 - col. 22 ln.18 discloses first base station IBS-G2 804b connect the mobile device 802 to network through anchoring base station IBS-G1 804a through link 867 and 866, therefore, distributing all part of uplink wireless signal)*;

receiving by the wireless network control device corresponding uplink data frames from the base station which the channel processing of the cell's uplink

wireless signal relates to *(Fig. 8C and col. 21 ln. 52 - col. 22 ln.18 discloses first base station IBS-G2 804b connect the mobile device 802 to network through anchoring base station IBS-G1 804a to MSC 815 through bearer and signaling 864 and 865, therefore, receiving by network control device data from base station, Fig. 9-10 discloses data frame for transmitting data)*

wherein the base station which the channel processing of the downlink data frames relates to, or the base station which the channel processing of the uplink wireless signals relates to comprises at least the second base station *(Fig. 8C discloses anchoring base station IBS-G1 804a processing data for mobile station relates to comprising relaying data from IBS-G2 base station, therefore, at least second base station)*

Re **claim 3-4**, Menon discloses the invention of claim 1 and further discloses channel processing on uplink and downlink direction relates to both first and second base station *(Fig. 8C discloses anchoring base station IBS-G1 804a processing data for mobile station relates to comprising relaying data from IBS-G2 base station, therefore, using first and second base station for uplink and downlink communication)*

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in **Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966)**, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows: ***(See MPEP Ch. 2141)***

a. Determining the scope and contents of the prior art;
b. Ascertaining the differences between the prior art and the claims in issue;
c. Resolving the level of ordinary skill in the pertinent art; and
d. Evaluating evidence of secondary considerations for indicating obviousness or nonobviousness.

8. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Menon et al., Pat. No. US 9496,694 B1, in view of Semper, Pub. No. US 20030119507 A1

Re **claim 2**, Menon discloses the method of claim 1, however, silent on further limitation of claim 2

Semper discloses method and apparatus for communication further comprising a step of transmitting channel configuration information in the cell from the first base station to the second base station sharing the channel processing task *(Fig. 3-5, Fig. 15, [0069]-[0070], [0086] discloses the communication between the two base station for setting up communication channel and the second base station is used as rescues base station, therefore, transmitting channel configuration information from first base station to second base station sharing channel processing task)*

Therefore, the combined teaching of Menon and Semper would have rendered obvious the invention of claim 2 to improve the reliability of communication since configuration information is sharing between base stations

9. **Claim 5-6 and 8-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Menon*** et al., Pat. No. US 9496,694 B1, in view of ***Takao*** et al., Pub. No. US 20020160777 A1

Re **claim 5**, Menon disclose the method of claim 1, however, silent on further limitation of claim 5

Takao discloses the method and apparatus for communicating wherein the bandwidth requires by the mobile station is divided between multiple base station *([0079]-[0080])* and when the base station which the channel processing of the uplink wireless signals relates to comprises more than one base stations, the uplink data frames belonging to the same cell are merged into one flow of uplink data of the cell in the wireless network control device *(Fig. 3-4 and [0079]-[0080] discloses the data transmitting to base station is spitted and combined in uplink/downlink direction for communication between multiple base station and mobile station to use combined resources of multiple base station to fulfill bandwidth requirement of mobile station)*

Thereofore, the combined teaching of Menon and Takao would have rendered obvious the invention of claim 5 to provide the ability to provide efficient

handoff mechanism from one single base station as a counter part to multiple base station counter part

Re **claim 6,** Menon disclose the method of claim 1, however, silent on further limitation of claim 6

Takao discloses the method and apparatus for communicating wherein the bandwidth requires by the mobile station is divided between multiple base station *([0079]-[0080])* and when the base station which the channel processing of the downlink data frames relates to comprises more than one base stations, the downlink data frames are separated in the wireless network control device in order to be transmitted to corresponding base stations *(Fig. 3-4 and [0079]-[0080] discloses the data transmitting to base station is spitted and combined in uplink/downlink direction for communication between multiple base station and mobile station to use combined resources of multiple base station to fulfill bandwidth requirement of mobile station)*

Therefore, the combined teaching of Menon and Takao would have rendered obvious the invention of claim 6 to provide the ability to provide efficient handoff mechanism from one single base station as a counter part to multiple base station counter part

Re **claim 8**, Menon discloses the method of claim 1, however, silent on further limitation of claim 8

Takao discloses the method and apparatus for communicating wherein the bandwidth requires by the mobile station is divided between multiple base station *([0079]-[0080])* and when the base station which the channel processing of the downlink data frames relates to, the base station which the channel processing of the uplink wireless signals relates to, or the channel processing task shared by the base station changes, signaling is applied to perform synchronous switching between the base station and the wireless network control device *(Fig. 3-4 and [0079]-[0080] discloses the data transmitting to base station is spitted and combined in uplink/downlink direction for communication between multiple base station and mobile station to use combined resources of multiple base station to fulfill bandwidth requirement of mobile station; Fig. 18 and [0142]-[0153] described the shared task changed which makes the switching counter part of base stations and mobile device which obviously involve signaling between base station and network control device as shown in Fig. 11 and 20. The change would involves the change in network control device for splitting and combining data as discloses in [0078]-[0079] and fig. 4, therefore, synchronous between base station and network control device)*

Therefore, the combined teaching of Menon and Takao would have rendered obvious the invention of claim 8 to provide the ability to provide efficient handoff mechanism from one single base station as a counter part to multiple base station counter part

Re **claim 9**, Menon discloses the method of claim 1, however, silent on further limitation of claim 9

Takao discloses the method and apparatus for communicating wherein the bandwidth requires by the mobile station is divided between multiple base station *([0079]-[0080])* and the uplink direction data processing and transmission is shared by the same base stations performing sharing data processing and transmission in downlink direction *Fig. 3-4 and [0079]-[0080] discloses the data transmitting to base station is spitted and combined in uplink/downlink direction for communication between multiple base station and mobile station to use combined resources of multiple base station to fulfill bandwidth requirement of mobile station. Since the mobile device communicate with multiple base station counterparts, the same counterpart base station would process data on both uplink and downlink direction)*

Therefore, the combined teaching of Menon and Takao would have rendered obvious the invention of claim 9 to provide the ability to provide efficient handoff mechanism from one single base station as a counter part to multiple base station counter part

10. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over ***Menon*** et al., Pat. No. US 9496,694 B1, in view of ***Takao*** et al., Pub. No. US 20020160777 A1, (and Kusaki et al., Pat. No. US 6108546 A)

Re **claim 7,** Menon discloses the method of claim 1, however, silent on further limitation of claim 7

Takao discloses the method and apparatus for communicating wherein the bandwidth requires by the mobile station is divided between multiple base station *([0079]-[0080])* and when the base station which the channel processing of the downlink data to multiple base stations *(Fig. 3-4 and [0079]-[0080] discloses the data transmitting to base station is spitted and combined in uplink/downlink direction for communication between multiple base station and mobile station to use combined resources of multiple base station to fulfill bandwidth requirement of mobile station)*

Therefore, it would have rendered obvious the invention of claim Menon and Takao to provide the ability to provide efficient handoff mechanism from one single base station as a counter part to multiple base station counter part. The combined teaching would provide the ability to split downstream data to multiple base station *(Takao – Fig. 3-4 and [0079]-[0080])*, therefore, the data send to base stations are from same data frame and addressed the invention of claim 7

To further demonstrated the ability to send same data frame to multiple mobile station, Kusaki is introduced.

Kusaki discloses handoff between base station wherein the same data frame is sent to multiple base stations *(abstract, col. 7 ln 26-49)*

Therefore, the combined teaching of Menon, Takao, and Kusaki would have rendered obvious the invention of claim 7 to reduced error rate during handoff

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DUNG HONG whose telephone number is (571) 270-7928. The examiner can normally be reached on Monday-Friday from 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JINSONG HU, can be reached on (571) 272-3965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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